

AMENDMENTS TO THE CLAIMS

LISTING OF CLAIMS

1. (currently amended) An interconnect for a semiconductor component having a component contact comprising:

a substrate; and
a compliant conductive layer comprising a base portion on the substrate, comprising a tip portion elevated with respect to the substrate, for contacting the component contact, a shaped spring segment portion attached to the base portion and to the supporting the tip portion, and a hollow interior portion at least partially enclosed by the spring segment portion, and the tip portion and the substrate;

the tip portion configured to electrically engage the component contact and to move independently of the substrate with flexure of the spring segment portion.

2. (currently amended) The interconnect of claim 1 wherein the shaped spring segment portion comprises opposed pairs of stepped spring segment portions.
~~has a stepped shape open on two sides.~~

3. (withdrawn) The interconnect of claim 1 wherein the shaped spring segment portion has a dome shape or a conical shape substantially enclosing the hollow interior portion.

4. (previously presented) The interconnect of claim 1 wherein the compliant conductive layer comprises a metal, a conductive polymer or a tape material.

5. (previously presented) The interconnect of claim 1 wherein the compliant conductive layer comprises a

conductive polymer comprising a plurality of metal particles configured to penetrate the component contact.

6. (previously presented) The interconnect of claim 1 wherein the tip portion includes a penetrating structure comprising an element selected from the group consisting of points, blades and particles.

7. (withdrawn) The interconnect of claim 1 wherein the compliant conductive layer includes a base portion comprises a metal deposited in an opening in the substrate.

8. (withdrawn) The interconnect of claim 1 wherein the compliant conductive layer includes a base portion on the substrate and the shaped spring segment portion has a generally conical shape.

9. (previously presented) The interconnect of claim 1 further comprising a plurality of compliant conductive layers corresponding to a plurality of component contacts on the component.

10. (previously presented) The interconnect of claim 1 wherein the component is contained on a semiconductor wafer comprising a plurality of components.

11. (previously presented) The interconnect of claim 1 wherein the component comprises a semiconductor package and the component contacts comprise bumps.

12. (previously presented) The interconnect of claim 1 wherein the component contacts comprise planar pads.

13. (previously presented) The interconnect of claim 1 wherein the component comprises a semiconductor die or a semiconductor package contained on a wafer.

14. (currently amended) An interconnect for a semiconductor component having a component contact comprising:

a substrate having a planar side; and
a compliant conductive layer on the substrate having a stepped shape and a hollow interior portion at least partially enclosed by the planar side, the compliant conductive layer having a base portion on the substrate planar side, a tip portion ~~for contacting the component contact~~ elevated with respect to the planar side, and a an opposed pair of spring segment portions attached to the base portion and to the tip portion;

the tip portion configured to electrically engage the component contact and to move independently of the substrate with flexure of the spring segment portions.
~~configured to allow flexure of the tip portion.~~

15. (previously presented) The interconnect of claim 14 wherein the substrate comprises a material selected from the group consisting of a semiconductor material, a plastic material and a ceramic.

16. (previously presented) The interconnect of claim 14 wherein the compliant conductive layer includes a penetrating structure for penetrating the component contact.

17. (previously presented) The interconnect of claim 14 wherein the compliant conductive layer comprises a polymer tape having a polymer substrate and a conductive layer on the polymer substrate.

18. (previously presented) The interconnect of claim 14 wherein the compliant conductive layer comprises a

conductive polymer comprising a plurality of particles configured to penetrate the component contact.

19. (previously presented) The interconnect of claim 14 further comprising a conductor on the substrate in electrical communication with the compliant conductive layer.

20. (previously presented) The interconnect of claim 14 further comprising a conductive via in the substrate in electrical communication with the compliant conductive layer.

21. (previously presented) The interconnect of claim 14 further comprising a plurality of compliant conductive layers on the substrate corresponding to a plurality of component contacts on the component.

22. (previously presented) The interconnect of claim 14 wherein the component is contained on a semiconductor wafer.

23. (currently amended) An interconnect for a semiconductor component having a plurality of component contacts comprising:

a substrate; and

a plurality of interconnect contacts on the substrate configured to electrically engage the component contacts, each interconnect contact comprising a base portion on the substrate, a shaped spring segment portion ~~on~~ attached to the base portion, ~~and~~ a tip portion ~~on~~ supported by the spring segment portion ~~for contacting for movement independently of the substrate during electrical contact of~~ a component contact, and a hollow interior portion.

24. (previously presented) The interconnect of claim 23 wherein the component is contained on a semiconductor wafer containing a plurality of components and the interconnect contacts are configured to electrically engage all of the component contacts on the wafer.

25. (withdrawn) The interconnect of claim 23 wherein the base portion is contained in an opening in the substrate.

26. (previously presented) The interconnect of claim 23 wherein the shaped spring segment portion has a stepped shape.

27. (previously presented) The interconnect of claim 23 wherein the shaped spring segment portion has a generally square shape.

28. (withdrawn) The interconnect of claim 23 wherein the shaped spring segment portion has a dome shape.

Claims 29-100 (canceled)